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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/519,441	03/03/2000	Jason C. Fan	M-8564US	7539

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Sawyer Law Group
2645 E. Bayshore Road
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Palo Alto, CA 94303

EXAMINER

GEORGE, KEITH M

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 10/23/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/519,441

Applicant(s)

FAN ET AL.

Examiner

Keith M. George

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,8-12,16,18 and 20-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,8-12,16,18 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 18 objected to because of the following informalities: The reference to claim 17 in line 1 of the claim should be removed because the claim now depends from claim 3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3, 6, 9-11, 18, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong et al., U.S. Patent 5,311,585, hereinafter Armstrong, in view of George et al., U.S. Patent 4,644,532, hereinafter George, and Alexander et al., U.S. Patent 5,986,782, hereinafter Alexander.

4. Referring to claims 1 and 3, Armstrong teaches a stored program control switch shown in figure 5. The switch includes a digital signaling interface (514); which is a transceiver for communicating signaling messages in digital form over a link (520). The switch also includes a switch fabric that performs, under the control of a processor, all the switching necessary to connect trunks to each other (column 11, lines 39-60). Armstrong teaches the hardware configuration described above with the possible exception of a method to monitor neighboring nodes for a topology change and communicate that change to the other nodes in the network and detecting the quality of a link based upon received optical power. George teaches a topology

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update procedure that is performed as follows: when a control node receives a message indicating a change in topology and including a time stamp (session identifier) from a neighboring node (monitor a message from a neighboring node identifying attributes of the neighboring node), the control node updates the topology by replacing the list of links adjacent to the node in its topology data base with the new list. After the control node has updated its own database, it proceeds to inform all other control nodes about the new status via a broadcast protocol by sending a broadcast message with the information to each neighbor on the network (communicate to other nodes a change in the topology). Whenever a node on the network receives such a broadcast, it checks its topology entry for the node. If the time stamp in the messages is less than or equal to the current time stamp stored for the node, the broadcast message is discarded. Otherwise the receiving control node changes its topology table entry and proceeds to transmit the identical message to all of its neighbors (each session identifier (time stamp) being associated with a different topology) (column 3, line 65 - column 4, line 37).

Alexander teaches an invention that provides an optical monitoring system for a WDM optical communication system. The optical monitoring system measures both optical channel signals and an optical noise sample (detecting the quality of a link based upon received optical power) (column 1, lines 52-55). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art that George was teaching a topology update procedure that could be used in any type of communication network that typically consists of a plurality of nodes and communication links interconnecting the nodes. The nodes taught by George are generic in nature and one of ordinary skill in the art would be motivated to utilize the hardware described by Armstrong as a node in the network of George. It also would have been obvious to

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a person of ordinary skill in the art to monitor the operation of the network taught by Armstrong and George in the manner described by Alexander. One of ordinary skill in the art would have been motivated to do this because both George and Armstrong are teaching a method to be used in a communication network with the purpose of transmitting data between two points of a network and Alexander teaches that in order to monitor the operation of an optical network, it is desirable to know the signal levels and the optical noise at each optical channel wavelength (Alexander, column 1, lines 24-26).

5. Referring to claims 9 and 11, Armstrong, George and Alexander teach the switch described in claim 1 above where it was clearly shown that George teaches that whenever a control node receives a message, the control node updates the topology by replacing the list of links adjacent to the node in its topology database with the new list (update a routing table within the routing switch based upon the topology change) (column 4, lines 9-13).

6. Referring to claims 10 and 21, Armstrong, George and Alexander teach the switch described in claims 1 and 3 above and George also teaches that additions or deletions of communication links are made known to the local topology monitor (column 6, lines 42-44).

7. Referring to claims 6, 18, 22 and 23, Armstrong, George and Alexander teach the switch described in reference to claims 1 and 3 above and Alexander also clearly teaches that the optical channel signals and optical noise samples are used to calculate the signal-to-noise ratio for each optical channel (column 1, lines 54-56).

8. Claims 4, 8, 16, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong, George and Alexander as applied to claims 1 and 3 above, and further in view of Pitcaikani et al., U.S. Patent 6,061,505, hereinafter Pitcaikani. Armstrong, George and

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Alexander teach the switch described in claims 1 and 3 above with the possible exception of detecting the address of the neighboring nodes. Pitchaikani teaches a method for providing topology information about a network and that each device on a network is uniquely represented by data stored in a corresponding device record. Each device record includes data for the field illustrated in Table 1. Table 1 clearly shows that the logical address and physical address of the device are recorded (column 6, lines 48-54 and Table 1). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to monitor the address of the neighboring devices as taught by Pitchaikani in the router of Armstrong, George and Alexander that was monitoring topology changes. One of ordinary skill in the art would have been motivated to do this because as networks becoming increasingly complex, it become increasing important to keep track of the various devices on a network and now they are interconnected. Such interconnection information is referred to as the topology of the network (Pitchaikani, column 1, lines 17-21).

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong, George and Alexander as applied to claim 1 above, and further in view of Liang et al., U.S. Patent 5,732,086, hereinafter Liang. Armstrong, George and Alexander teach the switch described in claim 1 above with the possible exception of updating the topology after a threshold period of time. Liang teaches a method for determining the topology of a reconfigurable multi-nodal network, which includes a state machine shown in figure 4. The stable state indicates that the node considers the topology stable since it has not received a topology update from any node within a time duration (column 8, lines 16-18). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the state machine of Liang

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in the system of Armstrong, George and Alexander. One of ordinary skill in the art would have been motivated to do this because Liang is teaching a method to discover when no neighbor nodes are heard from then the system becomes stable, otherwise it should continue to update in one of the other states (column 8, lines 3-22).

Response to Arguments

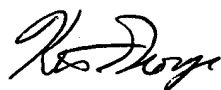
10. Applicant's arguments with respect to claims 1, 3, 4, 6, 8-12, 16, 18 and 20-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith M. George whose telephone number is 703-305-6531. The examiner can normally be reached on M-Th 7:00-4:30, every other F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.



Keith M. George
17 October 2003



CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 10/20/03